SEQUENCE LISTING

<110> Kodama, Tatsuhiko Yamada, Yoshiki Kamada, Nobuo Jishage, Kou-ichi

<120> Nonhuman animals for antibody production, and methods and systems for producing antibodies using such animals

<130> 14875-167US1 <150> PCT/JP2005/006298 <151> 2005-03-31 <150> JP2004-107669 <151> 2004-03-31 <160> <170> PatentIn version 3.1 <210> <211> 1539 <212> DNA <213> Baculovirus <220> <221> CDS <222> (1)..(1539) <400> 1 atq qta agc qct att qtt tta tat qtq ctt ttq qcq qcq qcq qcq cat 48 Met Val Ser Ala Ile Val Leu Tyr Val Leu Leu Ala Ala Ala His tot goo titt gog gog gag cac tgc aac gog caa atg aag acg ggt cog 96 Ser Ala Phe Ala Ala Glu His Cys Asn Ala Gln Met Lys Thr Gly Pro 20 tac aag att aaa aac ttg gac att acc ccg ccc aag gaa acg ctg caa 144 Tyr Lys Ile Lys Asn Leu Asp Ile Thr Pro Pro Lys Glu Thr Leu Gln 35 40 aag gac gtg gaa atc acc atc gtg gag acg gac tac aac gaa aac gtg 192 Lys Asp Val Glu Ile Thr Ile Val Glu Thr Asp Tyr Asn Glu Asn Val att atc ggc tac aag ggg tac tac cag gcg tat gcg tac aac ggc ggc 240 Ile Ile Gly Tyr Lys Gly Tyr Tyr Gln Ala Tyr Ala Tyr Asn Gly Gly 70 tcg ctg gat ccc aac aca cgc gtc gaa gaa acc atg aaa acg ctg aat 288 Ser Leu Asp Pro Asn Thr Arg Val Glu Glu Thr Met Lys Thr Leu Asn 85 90

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				_	atc Ile	-	_			_	-		_	_	-	384
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- Lys Asp Val Glu Ile Thr Ile Val Glu Thr Asp Tyr Asn Glu Asn Val 50 55 60
- Ile Ile Gly Tyr Lys Gly Tyr Tyr Gln Ala Tyr Ala Tyr Asn Gly Gly 65 70 75 80
- Ser Leu Asp Pro Asn Thr Arg Val Glu Glu Thr Met Lys Thr Leu Asn 85 90 95
- Val Gly Lys Glu Asp Leu Leu Met Trp Ser Ile Arg Gln Gln Cys Glu 100 105 110
- Val Gly Glu Glu Leu Ile Asp Arg Trp Gly Ser Asp Ser Asp Cys 115 120 125
- Phe Arg Asp Asn Glu Gly Arg Gly Gln Trp Val Lys Gly Lys Glu Leu 130 135 140
- Val Lys Arg Gln Asn Asn Asn His Phe Ala His His Thr Cys Asn Lys 145 150 155 160
- Ser Trp Arg Cys Gly Ile Ser Thr Ser Lys Met Tyr Ser Arg Leu Glu 165 170 175
- Cys Gln Asp Asp Thr Asp Glu Cys Gln Val Tyr Ile Leu Asp Ala Glu 180 185 190
- Gly Asn Pro Ile Asn Val Thr Val Asp Thr Val Leu His Arg Asp Gly
 195 200 205
- Val Ser Met Ile Leu Lys Gln Lys Ser Thr Phe Thr Thr Arg Gln Ile 210 215 220
- Lys Ala Ala Cys Leu Leu Ile Lys Asp Asp Lys Asn Asn Pro Glu Ser 225 230 235 240
- Val Thr Arg Glu His Cys Leu Ile Asp Asn Asp Ile Tyr Asp Leu Ser 245 250 255
- Lys Asn Thr Trp Asn Cys Lys Phe Asn Arg Cys Ile Lys Arg Lys Val260 265 270
- Glu His Arg Val Lys Lys Arg Pro Pro Thr Trp Arg His Asn Val Arg 275 280 285
- Ala Lys Tyr Thr Glu Gly Asp Thr Ala Thr Lys Gly Asp Leu Met His 290 295 300

Ile Gln Glu Glu Leu Met Tyr Glu Asn Asp Leu Leu Lys Met Asn Ile 305 310 Glu Leu Met His Ala His Ile Asn Lys Leu Asn Asn Met Leu His Asp 325 330 Leu Ile Val Ser Val Ala Lys Val Asp Glu Arg Leu Ile Gly Asn Leu Met Asn Asn Ser Val Ser Ser Thr Phe Leu Ser Asp Asp Thr Phe Leu 355 Leu Met Pro Cys Thr Asn Pro Pro Ala His Thr Ser Asn Cys Tyr Asn 375 Asn Ser Ile Tyr Lys Glu Gly Arg Trp Val Ala Asn Thr Asp Ser Ser 390 Gln Cys Ile Asp Phe Ser Asn Tyr Lys Glu Leu Ala Ile Asp Asp Asp 405 410 Val Glu Phe Trp Ile Pro Thr Ile Gly Asn Thr Thr Tyr His Asp Ser 425 Trp Lys Asp Ala Ser Gly Trp Ser Phe Ile Ala Gln Gln Lys Ser Asn 435 440 Leu Ile Thr Thr Met Glu Asn Thr Lys Phe Gly Gly Val Gly Thr Ser Leu Ser Asp Ile Thr Ser Met Ala Glu Gly Glu Leu Ala Ala Lys Leu 470 Thr Ser Phe Met Phe Gly His Val Val Asn Phe Val Ile Ile Leu Ile 485 490 Val Ile Leu Phe Leu Tyr Cys Met Ile Arg Asn Arg Asn Arg Gln Tyr 500 505 <210> 3 <211> 1464 <212> DNA <213> Baculovirus <220> <221> CDS <222> (1)..(1464) atg gta agc gct att gtt tta tat gtg ctt ttg gcg gcg gcg cat 48 Met Val Ser Ala Ile Val Leu Tyr Val Leu Leu Ala Ala Ala His 10 tet gee ttt geg geg gag eac tge aac geg caa atg aag acg ggt eeg 96 Ser Ala Phe Ala Ala Glu His Cys Asn Ala Gln Met Lys Thr Gly Pro 20 25

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				atc Ile												192
				aag Lys												240
				aac Asn 85												288
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				gag Glu												432
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				acg Thr												576
				aac Asn				_					_	_		624
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				ctg Leu												720
				cac His 245												768

		_			tgc Cys	_			_				_		_	816
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Lys Asp Val Glu Ile Thr Ile Val Glu Thr Asp Tyr Asn Glu Asn Val 50 55 60

Ile Ile Gly Tyr Lys Gly Tyr Tyr Gln Ala Tyr Ala Tyr Asn Gly Gly 65 70 75 80

Ser Leu Asp Pro Asn Thr Arg Val Glu Glu Thr Met Lys Thr Leu Asn 85 90 95

Val Gly Lys Glu Asp Leu Leu Met Trp Ser Ile Arg Gln Gln Cys Glu 100 105 110

Val Gly Glu Leu Ile Asp Arg Trp Gly Ser Asp Ser Asp Cys 115 120 125

Phe Arg Asp Asn Glu Gly Arg Gly Gln Trp Val Lys Gly Lys Glu Leu 130 135 140

Val Lys Arg Gln Asn Asn Asn His Phe Ala His His Thr Cys Asn Lys 145 150 155 160

Ser Trp Arg Cys Gly Ile Ser Thr Ser Lys Met Tyr Ser Arg Leu Glu 165 170 175

Cys Gln Asp Asp Thr Asp Glu Cys Gln Val Tyr Ile Leu Asp Ala Glu 180 185 190

Gly Asn Pro Ile Asn Val Thr Val Asp Thr Val Leu His Arg Asp Gly
195 200 205

Val Ser Met Ile Leu Lys Gln Lys Ser Thr Phe Thr Thr Arg Gln Ile 210 215 220

Lys Ala Ala Cys Leu Leu Ile Lys Asp Asp Lys Asn Asn Pro Glu Ser 225 230 235 240

Val Thr Arg Glu His Cys Leu Ile Asp Asn Asp Ile Tyr Asp Leu Ser 245 250 255 Lys Asn Thr Trp Asn Cys Lys Phe Asn Arg Cys Ile Lys Arg Lys Val

Glu His Arg Val Lys Lys Arg Pro Pro Thr Trp Arg His Asn Val Arg 275 280 285

Ala Lys Tyr Thr Glu Gly Asp Thr Ala Thr Lys Gly Asp Leu Met His 290 295 300

Ile Gln Glu Glu Leu Met Tyr Glu Asn Asp Leu Leu Lys Met Asn Ile 305 310 315 320

Glu Leu Met His Ala His Ile Asn Lys Leu Asn Asn Met Leu His Asp 325 330 335

Leu Ile Val Ser Val Ala Lys Val Asp Glu Arg Leu Ile Gly Asn Leu 340 345 350

Met Asn Asn Ser Val Ser Ser Thr Phe Leu Ser Asp Asp Thr Phe Leu 355 360 365

Leu Met Pro Cys Thr Asn Pro Pro Ala His Thr Ser Asn Cys Tyr Asn 370 380

Asn Ser Ile Tyr Lys Glu Gly Arg Trp Val Ala Asn Thr Asp Ser Ser 385 390 395 400

Gln Cys Ile Asp Phe Ser Asn Tyr Lys Glu Leu Ala Ile Asp Asp Asp 405 410 415

Val Glu Phe Trp Ile Pro Thr Ile Gly Asn Thr Thr Tyr His Asp Ser 420 425 430

Trp Lys Asp Ala Ser Gly Trp Ser Phe Ile Ala Gln Gln Lys Ser Asn 435 440 445

Leu Ile Thr Thr Met Glu Asn Thr Lys Phe Gly Gly Val Gly Thr Ser 450 455 460

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gcg gcg cat tct gcc ttt gcg gcg gag cac tgc aac gcg caa atg aag
Ala Ala His Ser Ala Phe Ala Ala Glu His Cys Asn Ala Gln Met Lys
            20
                                25
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			_	_	-				_	-	_	_	acc Thr	_		289
	_						-	_				_	atc Ile 110		_	337
													agt Ser			385
-	_	_		_					_				gtc Val			433
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gct	aaa	ttg	act	tcg	ttc	atg	ttt	ggt	cat	gta	taa	tgag	aat '	tc		1486

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Ala Ala His Ser Ala Phe Ala Ala Glu His Cys Asn Ala Gln Met Lys 20 25 30

Thr Gly Pro Tyr Lys Ile Lys Asn Leu Asp Ile Thr Pro Pro Lys Glu 35 40 45

Thr Leu Gln Lys Asp Val Glu Ile Thr Ile Val Glu Thr Asp Tyr Asn 50 55 60

Glu Asn Val Ile Ile Gly Tyr Lys Gly Tyr Tyr Gln Ala Tyr Ala Tyr 65 70 75 80

Asn Gly Gly Ser Leu Asp Pro Asn Thr Arg Val Glu Glu Thr Met Lys 85 90 95

Thr Leu Asn Val Gly Lys Glu Asp Leu Leu Met Trp Ser Ile Arg Gln
100 105 110

Gln Cys Glu Val Gly Glu Glu Leu Ile Asp Arg Trp Gly Ser Asp Ser 115 120 125

Asp Asp Cys Phe Arg Asp Asn Glu Gly Arg Gly Gln Trp Val Lys Gly 130 135 140

Lys Glu Leu Val Lys Arg Gln Asn Asn Asn His Phe Ala His His Thr 145 150 155 160

Cys Asn Lys Ser Trp Arg Cys Gly Ile Ser Thr Ser Lys Met Tyr Ser . 165 170 175

Arg Leu Glu Cys Gln Asp Asp Thr Asp Glu Cys Gln Val Tyr Ile Leu 180 185 190 Asp Ala Glu Gly Asn Pro Ile Asn Val Thr Val Asp Thr Val Leu His
195 200 205

Arg Asp Gly Val Ser Met Ile Leu Lys Gln Lys Ser Thr Phe Thr Thr 210 215 220

Arg Gln Ile Lys Ala Ala Cys Leu Leu Ile Lys Asp Asp Lys Asn Asn 225 230 235 240

Pro Glu Ser Val Thr Arg Glu His Cys Leu Ile Asp Asn Asp Ile Tyr 245 250 255

Asp Leu Ser Lys Asn Thr Trp Asn Cys Lys Phe Asn Arg Cys Ile Lys 260 265 270

Arg Lys Val Glu His Arg Val Lys Lys Arg Pro Pro Thr Trp Arg His
275
280
285

Asn Val Arg Ala Lys Tyr Thr Glu Gly Asp Thr Ala Thr Lys Gly Asp 290 295 300

Leu Met His Ile Gln Glu Glu Leu Met Tyr Glu Asn Asp Leu Leu Lys 305 310 315 320

Met Asn Ile Glu Leu Met His Ala His Ile Asn Lys Leu Asn Asn Met 325 330 335

Leu His Asp Leu Ile Val Ser Val Ala Lys Val Asp Glu Arg Leu Ile 340 345 350

Gly Asn Leu Met Asn Asn Ser Val Ser Ser Thr Phe Leu Ser Asp Asp 355 360 365

Thr Phe Leu Leu Met Pro Cys Thr Asn Pro Pro Ala His Thr Ser Asn 370 375 380

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Asp Ser Ser Gln Cys Ile Asp Phe Ser Asn Tyr Lys Glu Leu Ala Ile 405 410 415 Asp Asp Asp Val Glu Phe Trp Ile Pro Thr Ile Gly Asn Thr Thr Tyr 420 425 430

His Asp Ser Trp Lys Asp Ala Ser Gly Trp Ser Phe Ile Ala Gln Gln 435 440 445

Lys Ser Asn Leu Ile Thr Thr Met Glu Asn Thr Lys Phe Gly Gly Val 450 455 460

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